In the article on polypus of the rectum much additional information is given regarding this affection; and in that on bronchitis a succinct notice of its capillary form renders the history of the disease complete.

The greater part of the article on pneumonia has been written anew, and all the valuable additions which have lately been made to our knowledge of its pathology fully and clearly set forth. The physical and diagnostic signs of pleurisy, and much new matter connected with the operation of tracheotomy in croup, are given in their appropriate places. An entirely new article upon spasmodic croup now sets this affection in true contrast with Kopp's asthma, or spasm of the glottis, along with which it was described in the first edition; and in like manner acute meningitis and tubercular meningitis, which were before imperfectly distinguished, many of the peculiar phenomena of the latter having been referred to the former malady, have each a thorough and satisfactory consideration.

Under the head of measles we notice many important additions to the symptomatology of the disease, and under that of scarlatina a more detailed account than before of the dropsy which so frequently attends the decline of the attack. The experiments of Dr. Stievenart of Valenciennes, and of Dr. Irwin, of South Carolina, in regard to the prophylactic power of belladonna in epidemics of scarlet fever form a valuable complement to this interesting chapter.

The discussion of the protective powers of vaccination is entirely remodeled, and many new conclusions and facts relating to this very important topic are, for the first time, brought together. We regret, however, that the author found it necessary to omit the greater part of the vaccine statistics previously furnished by him.

An extremely valuable addition is that containing the morbid anatomy, the symptoms and the diagnosis of tuberculization, as it occurs in the different structures and organs of the body, and for which the author avows his indebtedness to the treatise of Rilliet and Barthez.

In the article on cyanosis, the greater part of which is written anew, reference is made to the essays of Dr. Craigie and others who have proved that the blue discoloration of the skin does not depend upon the mixture of venous with arterial blood in the vessels. But we do not think that with the facts and arguments of these writers before him, the author is entitled to attribute any part of the cyanotic colour to an imperfect arterialization of the blood in the lungs. The conclusion drawn by the writers themselves is that it is entirely owing to venous congestion.

It will be evident from this summary that the present is very far from being a mere reprint of the first edition of Dr. Condie's treatise, that it is really what it professes to be, "revised and augmented," and that it embraces "a full and connected view of the actual state of the pathology and therapeutics of those affections which most usually occur between birth and puberty." We therefore heartily commend it anew to the medical profession, assured that it contains a far more complete exposition of its subject than any other treatise on the diseases of children in the English language. A. S.

ART. XV.—*Materia Medica and Therapeutics—including the Preparations of the Pharmacopœias of London, Edinburgh, Dublin, [and of the United States,] with many new Medicines.* By J. FORBES ROYLE, M. D., F. R. S., late of the Medical Staff of the Bengal Army; Member of the Medical and Chirurgical Society of London; of the Medical and Physical Society of Calcutta, and of the Royal Medical Society of Edinburgh, &c.; Professor of Materia Medica and Therapeutics, King's College, London. Edited by JOSEPH CARSON, M. D., Professor of Materia Medica in the Philadelphia College of Pharmacy; Member of the American Philosophical Society, &c., with ninety-eight illustrations. Philadelphia, Lea & Blanchard: pp. 689, 8vo. 1847.

DR. Royle's reputation as an able botanist and as an assiduous investigator of the medical properties of plants has been fully established by his various publications on these subjects, but more especially by his illustrations of the Botany of the Himalaya mountains, and the present work will in no measure detract from his

well earned fame. It is extremely difficult to prepare a work on Materia Medica which is at the same time sufficiently full to convey the required information and yet so condensed as not to weary and perplex the student. The departments of Therapeutics and of Materia Medica, each, present so wide a field that a mere synopsis of either of them can scarcely be compressed within the limits of a single volume, and hence, when it is attempted to combine a view of the facts and doctrines of both in such a space, undue importance must be given to one or the other, or both of them will be treated in a superficial and unsatisfactory manner.

From this cause the work of Dr. Royle, as well as that of Drs. Ballard and Garrod, is not exactly what could have been wished. As concise treatises on the principal articles of the Materia Medica, they are both admirably suited to the wants of the student, but they are deficient in the portions relating to the application of these articles; nor from their plan could this have been avoided for the reasons just stated. The only work in the English language that fulfils both these conditions is the excellent one by Pereira, which, whilst it gives a full account of the origin and characters of medicinal agents, is also very full on their general and special actions on the system.

The plan of Dr. Royle's work is as follows:—After a general view of the objects of Materia Medica and Therapeutics, he gives a short sketch of the operations of Pharmacy and of Pharmaceutic Chemistry, followed by an account of the various remedial agents arranged according to the kingdom of nature to which they appertain; this is followed by a brief therapeutic arrangement, founded on the main characteristics of the several classes of remedies with references to the articles belonging to each class, noticed in the main body of the work; and the whole concluded by a table of antidotes to the principal poisons.

As a work on the articles of the Materia Medica and their preparations, it deserves the most unqualified praise. In the portion devoted to substances derived from the vegetable kingdom, there is, as might have been expected from the author's laborious researches in Medical Botany, a great amount of new and interesting matter, respecting the origin and nature of some of the most important of the vegetable remedies. The accounts of the plants furnishing assafœtida, rhubarb, bebeerine are peculiarly deserving of notice, and throw much light on the disputes relative to them. There are numerous and well executed wood-cuts illustrative of the several subjects considered, which add much not only to the appearance, but to the intrinsic value of the book. We may remark in addition that it is remarkably well "got up" in all that regards its typography, paper, &c.

The present edition has been issued under the supervision of Dr. J. Carson, who has not only added many important articles on our native Materia Medica, but has also inserted the preparations of our national Pharmacopœia, so as to render it more generally useful to American students and practitioners. In conclusion we may say, that we can recommend the work to the attention of the profession, as an excellent and useful compend on the Materia Medica.

We subjoin a few extracts to show the manner in which the author has treated the several subjects:—

"Helleborus, L. E. D. (U. S.) Radix. The Root. Helleborus niger, *Linn.* E. D. (H. officinalis Sibth, L.) *Polyandria Trigynia*, Linn.

"Black Hellebore, so called from the colour of its roots, and Christmas Rose, from flowering in winter, is a native of the shady woods of the lower mountains of many parts of Europe.

"*Bot. Ch.* The plant is herbaceous, with a perennial blackish-coloured rhizoma, tuberculated and scaly, from which descend numerous thickish radicles. The leaves, which sometimes make their appearance after the scape, are radical, with long, cylindrical, and spotted footstalks, pedately divided, with the lobes from seven to nine, oblong lanceolate, sometimes cuneate-obovate, largely serrated towards their apices, and arranged apparently along the forked terminations of the petiole; they are stiff, almost leathery, of a dirty green colour, smooth above, paler and reticulate beneath. The scape is shorter than the petiole, furnished with two or three oval bracts, often simple and single-flowered, sometimes forked and two-flowered. The flower is large, terminal, white, with a tinge of pink, the most

conspicuous part being the petaloid calyx: of this the sepals are five, ovate, and permanent. The petals, eight to ten, are small, greenish-coloured, tubular, tapering towards the base, with the limb tubular, bilabiate, and their outer margins terminated in a tongue-shaped lip. Stamens numerous, longer than the petals. Ovaries six to eight. Stigmas terminal, orbiculate. Capsules follicular, leathery. Seeds many, elliptical, umbilicated, arranged in two rows.—Jacq. Fl. Aust. t. 201. B. M. t. 8.

"Hellebore root is usually imported in bags and barrels from Hamburgh, sometimes from Marseilles. (*p.*) French authors state that they are supplied from Auvergne and from Switzerland. The so-called roots, consist of the root-stock and of the radicals; the latter are chiefly recommended; the former some inches long, and half an inch thick, straight or contorted, is marked with transverse ridges, being the remains of the leaf-stalks, and on the under surface with long fibres, all more or less of a dark brown colour, internally with a white point in the centre. The odour of the dried root is feeble, but has been compared by Geiger with that of Seneka root. The taste at first sweetish, soon becomes bitter and nauseously acrid. Dr. Christison says he did not observe the roots to be acrid in February, and that the dried roots are not acrid. (Goebel and Kunze, 11. Tab. xxxi. fig. 1. a)

"*Prop.* Hellebore root has not yet been satisfactorily analyzed. Feneulle and Capron found in it both a Volatile and Fatty Oil, a Volatile Acid, Resinous matter, Wax, a Bitter principle, Mucus, Ulmine, Gallate of Potash, Supergallate of Lime, and an Ammoniacal salt. They ascribe the activity of Hellebore to the union of the concrete oil with the volatile acid. As the root loses some of its efficacy by drying and also by long keeping, it requires to be frequently renewed. Water extracts some of its virtues, but Alcohol is the best menstruum.

"Helleborus officinalis of Dr. Sibthorp (*Fig.* 35) found by him on hilly ground in Greece and the Levant, has been figured in Fl. Græca, t. 583. It was considered by Dr. S. to be the Black Hellebore of Dioscorides, being still used and called Zoptima by the Turks, and Σκαφη by the Greeks. It had been discovered previously by Tournefort, and was called *H. orientalis* by Lamarck. Though this probably afforded the roots employed by the ancients, yet as it seems never to be brought to this country, it should not have been adopted as the officinal plant by the London College. It is intermediate in character between *H. niger* and *H. viridis*, differing from the former in its rather leafy-branched, many-flowered stem, and from the latter in its coloured calyx, and from both in its leaves being pubescent on their under surface. Fig. 35. 1. A sepal with petals attached. 2. Sepals &c. removed to show the pistils with a stamen and petal.

Fig. 35.

"Helleborus viridis; Green Hellebore roots are often mixed with those of the Black Hellebore on the Continent, and are said to be efficient substitutes. H. fœtidus, or Bearsfoot Hellebore, has its leaves still officinal in the United States. They are acrid, emetic, and cathartic, and were formerly employed as Anthelmintics. The roots of Actæa spicata are sometimes intermixed with Hellebore, and are figured with the above by Goebel and Kunze.

"*Action. Uses.* The fresh root of Hellebore applied to the skin, induces inflammation, and vesication. Given internally, it acts as an irritant to the intestinal

canal, producing vomiting and purging, and in some cases inflammation of the rectum. Purgative emmenagogue.

"*D.* Hellebore is sometimes prescribed in fresh-made powder, in doses of from grs. x to ℈j, as a drastic purgative, but in gr. iij to viij for milder effects. Of the Infusion (℥ij to Aq. ferv. Oj) f℥j every four hours. An Alcoholic extract is an efficacious preparation.

"Tinctura Hellebori (Nigri, D.) L. (U. S.) *Prep.* Macerate *Bruised Hellebore* ℥v (℥iv D. U. S.) in *Proof Spirit* Oij for fourteen (7, D.) days and strain. *D.* f℥ss to f℥j as an adjunct to draughts.

"[Extractum Hellebori, U. S. Extract of Black Hellebore. *Prep.* Take *Hellebore* in coarse powder ℔j; *Diluted Alcohol* Oiv. Moisten with half a pint of the Diluted Alcohol, and allow to stand for twenty-four hours, then displace in a percolator with the remainder of the Alcohol, and displace the last quantity with water. Distil off the Alcohol, and evaporate to the proper consistence. This is better than an extract by decoction, as the vol. oil is retained. *D.* gr. v to xx."] pp. 239—241.

"Cannabis sativa and its variety *C. indica.* The Leaves and Resin of Hemp.—The Hemp appears to be a plant of the Persian region, where it is subjected to great cold in winter, and to considerable heat in summer. It has thus been able to travel on one hand into Europe, and on the other into India; so that the varieties produced by climate have by some been thought to be distinct species, the European being called *C. sativa*, and the Indian *C. indica.* The name κανναβις, by which it was known to the Greeks, seems to be derived from the Arabic *kinnub*, the *canape*, of the middle ages, Dutch *kinnup* and *hinnup*, German *hanf*, whence the English *hemp.* Herodotus mentions it as Scythian. Bieberstein met with it in Tauria and the Caucasian region. It is well known in Bokhara, Persia, and abundant in the Himalayas. It seems to have been employed as an intoxicating substance in Asia and Egypt from very early times, and even in medicine in Europe in former times, as we find it noticed in Dale (*Pharmacologia*, i. 133) and Murray (*Apparat. Medicaminum*, iv. pp. 608—620), where it is arranged, as in this work, next to the Humulus. It has of late years been brought into European notice by Dr. O'Shaughnessy.

"The Hemp is dicœcious (occasionally moncœcious) annual, from three to ten feet high, according to soil and climate. Root white, fusiform, furnished with fibres. The stem erect; when crowded, simple; but when growing apart, branched even from the bottom, angular, and, like the whole plant, covered with fine but rough pubescence. The leaves are opposite or alternate, on long petioles, scabrous, digitate, composed of from five to seven narrow, lanceolate, sharply serrated leaflets, of which the lower are the smallest, all tapering at the apex into a long entire point. Stipules subulate. *Males* on a separate plan. Flowers, in drooping, axillary, or racemose panicles, with subulate bracts. Perianth five-parted; segments not quite equal, downy. Stamens five; filaments short; anthers large, pendulous, two-celled; cells united by their backs, opening by a longitudinal slit. *Females* in a crowded spike-like raceme, with leafy bracts. The perianth consists of a single, small spathe like sepal, which is persistent, acuminate, ventricose at the base, embraces the ovary, and is covered with short brownish glands. Ovary subglobular, one-celled, with one pendulous ovule. Style short. Stigmas, two, elongated, glandular. Nut ovate, grayish-coloured, smooth, covered by the calycine sepal, bivalved but not dehiscing, and inclosing a single oily seed. Seed pendulous. Testa thin, membranous, marked at the apex with a coloured hilum. Embryo without albumen, doubled upon itself. Radicle elongated, turned towards the hilum, and the apex of the nut separated from the incumbent plano-convex cotyledons (by a small quantity of albumen. *Lindley*).

"The Indian plant has by some been thought to be a species distinct from the European one; but, like Dr. Roxburgh and others, the author was unable when in India to observe any difference between the plant of the plains and that of the hills of India, nor between these and the European plant. The Indian secretes a much larger proportion of resin than is observable in the European plant, but a difference is observed in this point in India between plants grown in the plains, and those of the mountains, and also when grown thickly together. The natives

plant them wide apart, to enable them to secrete their full powers. In Europe, the thick sowing, and moister, often dull, climate will prevent the due secretion of the peculiar principles of a plant of the Persian region. But the plants grown in the past season, from the great heat and light, ought to be more resinous than usual. It is not without interest to observe that both the Hop and Hemp, belonging to the group *Cannabineæ*, owe their properties to glandular resinous secretions. The author, in calling attention to the uses of this plant, in his *Illust. of Himalayan Botany*, stated that "the leaves are sometimes smoked in India, and occasionally added to tobacco, but are chiefly employed for making *bhang* and *subzee*, of which the intoxicating powers are so well known. But a peculiar substance is yielded by the plants on the hills, in the form of a glandular secretion, which is collected by the natives pressing the upper part of the young plant between the palms of their hands, and then scraping off the secretion which adheres. This is well known in India by the name of *churrus*, and is considered more intoxicating than any other preparation of the plant; which is so highly esteemed by many Asiatics, and serves them both for wine and opium: it has in consequence a variety of names applied to it in Arabic, some of which were translated to me as "grass of faqueers," "leaf of delusion," "increaser of pleasure," "exciter of desire," "cementer of friendship," &c. Linnæus was well acquainted with its "vis narcotica, phantastica, dementens" (anodyna et repellens). It is as likely as any other to have been the *Nepenthes* of Homer. (*l. c.* p. 334.)*

"Dr. O'Shaughnessy has described in detail the different preparations, as—

"1. *Churrus*, the concreted resinous exudation from the leaves, slender stems, and flowers. This is collected in various ways; that of the Himalayas is much esteemed, that of Herat and of Yarkund still more so. For a specimen of the last the author is indebted to Dr. Falconer.

"2. *Ganjah*. Dr. O'S. describes it to be the dried hemp plant which has flowered, and from which the resin has not been removed. The bundles are about two feet long, and contain twenty-four plants. In N. W. India the name *Ganjah* is applied to the whole growing plant.

"3. *Bang*, *Subjee*, or *Sidhee*, is formed of the larger leaves and capsules without the stalks.

"The leaves of common Hemp have been analyzed, but the analysis requires to be repeated and carefully compared with that of the Indian plant. The properties seem to depend on a Volatile Oil, which is as yet but little known, and upon the Resin. This is very soluble in Alcohol and Ether, as well as in the fixed and Volatile Oils, partially soluble in alkaline, insoluble in acid solutions: when pure, of a blackish-gray colour. (The Yarkund specimen is of a dark blackish-green, another kind is of a dirty olive.) Its odour is fragrant and narcotic; taste slightly warm, bitterish, and acrid. The *Ganjah*, which is sold for smoking chiefly, yields to Alcohol 20 per cent. of resinous extract, composed of *churrus* and Chlorophylle. Dr. Farre found that already a substitute (*Apocynum cannabinum*, called Indian Hemp in America) is sold for this, though having no resemblance to it, and possessing only emetic and cathartic properties.

"*Action. Uses.* All these preparations are capable of producing intoxication, whether the *churrus* be taken in the form of a pill, or with conserve, or the dried leaf be rubbed up in milk and water with a little sugar and spice, or smoked. As a medicine, it was tried by Dr. O'S. in Rheumatism, Hydrophobia, Cholera, and Tetanus. In the last such marked benefit and cures were produced, that the Hemp was pronounced an Anticonvulsive remedy of the greatest value. Its general effects are, alleviation of pain (generally), remarkable increase of appetite, unequivocal Aphrodisia, and great mental cheerfulness. Its more violent effects were, delirium of a peculiar kind, and a cataleptic state. Dr. Pereira was among the first to submit it to experiment, but failed in obtaining any results, probably from changes having taken place in the drug. Dr. Laurie pronounced it uncertain, and not to be trusted to as a narcotic. Mr. Ley, however, found it useful in relax-

* Dr. O'S. states that "no information as to the medicinal effects of Hemp exists in the standard writers on Materia Medica to which we have access." It is only in the later writers that it is omitted. Linnæus was acquainted with them, as the author quoted in the above briefly, as being a botanical work.

ing spasm, producing sleep, and during its action abatement of pain. Mr. Donovan found its power great in temporarily destroying sensation, and subduing the most intense neuralgic pain. Professor Miller of Edinburgh considers its virtue to consist in a power of controlling inordinate muscular spasm. Dr. Clendinning says that in his hands its exhibition has been followed by manifest effects as a soporific or hypnotic in conciliating sleep, as an anodyne in lulling irritation, as an antispasmodic in checking cough and cramp, and as a nervous stimulant in removing languor and anxiety. The Hemp may be used in the following preparations and doses; but Dr. O'S., when in England, found that he was obliged to give as much as 10 or 12 grs. and even more; though in India he considered gr. ½ a sufficient, and 1½ gr. of the Extract a large dose.

"Extractum Cannabis. Resinous extract of Indian Hemp. *Prep.* Boil the rich adhesive tops of the dried *Ganjah* in *Rectified Spirit* until all the Resin is dissolved out. Distil off the Spirit with a gentle heat.

"*D.* This extract is effectual in gr. ss. and gr. j doses; but 10 and 20 grs. have been given in Hydrophobia and Tetanus."—Pp. 550—553.

The following observations on the geography of plants, as connected with their physical properties, are of interest:—

"Finding that the growth of plants and the nature of their secretions are so much affected by the different physical agents, we may conclude that there are particular sets of plants fitted by nature for the particular circumstances in which they are placed. The Tropical Zone is characterized by brightness of light, great heat, and moisture. These are all favourable to the development of plants, which are accordingly characterized by vastness, the foliage by richness, and the inflorescence by brilliancy of colouring. From these regions, moreover, the rest of the world is supplied with aromatics and spices. Tropical climate is not terminated by an abrupt line; but, according to the influence of local causes, is extended into higher latitudes, carrying with it the peculiarities of tropical vegetation. So also in ascending mountains, the diminution of temperature being gradual, so is the disappearance of the vegetable forms growing at their base; and we find plants diminishing in number and in size as we ascend lofty mountains. Luxuriant vegetation, however, is not confined to tropical countries; for temperate climates can equally boast of beauty and variety of scenery; where the Pine tribe are conspicuous, Oaks, with other catkin-bearing trees, form valuable timber-trees, and the small Labiatæ, the aromatics of northern regions. Between these extremes, there are many gradations of temperature, of moisture, and of dryness, all of which influence the nature of the vegetation and the secretions of plants; as, for instance, the tract of country which is beyond the reach of tropical influence, and yet not so cool or so moist as European regions, but where the atmosphere is clear and dry, the temperature hot, and the soil apparently barren. All this being favourable to the due secretion of vegetable products, we obtain from Persia, Arabia, and parts of Africa, many most important drugs. Therefore, in visiting or sojourning in different countries, when acquainted with the principles of geographical distribution, we know what groups of plants to expect, and what we may hope successfully to cultivate; so also in cultivating or collecting medicinal plants in our own country, we shall be better able to weigh the influences of soil and of aspect."—P. 234.

R. E. G.

Art. XVI.—*The Pathological Anatomy of the Human Body.* By Julius Vogel. M. D., Professor of Clinical Medicine at the University of Giessen. Translated from the German, with additions, by George E. Day, M. A. and L. M. Cantab., &c. &c. Illustrated by upwards of one hundred plain and coloured engravings. 8vo. pp. 534. Philadelphia, Lea and Blanchard, 1847.

The Pathological Anatomy of Dr. Vögel will form a valuable addition to the library of the student and physician. A treatise on general morbid anatomy, embracing the recent discoveries effected by chemistry and the microscope, has been a desideratum which the present volume is well calculated to supply. It treats